This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-5 (Canceled)

6. (Previously Presented) An isolated polypeptide encoded by a DNA comprising a nucleic acid sequence that encodes a polypeptide with the ability to co-stimulate a T cell, wherein the nucleic acid sequence hybridizes, after a wash at 50°C to 65°C in a buffer containing 0.2 x SSC and 0.1% SDS, to the complement of a sequence that encodes a polypeptide with the amino acid sequence set forth in SEQ ID NO:1.

7. (Previously presented) The isolated polypeptide of claim 6, wherein the polypeptide comprises amino acid residue 23 to amino acid residue 290 of the amino acid sequence set forth in SEQ ID NO:1, or amino acid residue 30 to amino acid residue 290 of the amino acid sequence set forth in SEQ ID NO:1 but differing solely by 1-10 conservative substitutions.

8. (Withdrawn) The isolated polypeptide of claim 6, wherein the polypeptide comprises an amino acid sequence of amino acid residue 23 to amino acid residue 290 of SEQ ID NO:3, or said amino acid sequence but differing solely by conservative substitutions.

9. (Previously presented) The isolated polypeptide of claim 6, wherein the polypeptide comprises the amino acid sequence set forth in SEQ ID NO:1, or the amino acid sequence set forth in SEQ ID NO:1 but differing solely by 1-10 conservative substitutions.

10. (Withdrawn) The isolated polypeptide of claim 6, wherein the polypeptide comprises an amino acid sequence of SEQ ID NO:3, or said amino acid sequence but differing solely by conservative substitutions.

Claims 11-13 (Canceled)

14. (Withdrawn) A method of co-stimulating a T cell, the method comprising contacting the T cell with the polypeptide of claim 6.

15. (Withdrawn) The method of claim 14, wherein the contacting comprises culturing the polypeptide with the T cell *in vitro*.

16. (Withdrawn) The method of claim 14, wherein the T cell is in a mammal.

17. (Withdrawn) The method of claim 16, wherein the contacting comprises administering the polypeptide to the mammal.

18. (Withdrawn) The method of claim 16, wherein the contacting comprises administering a nucleic acid encoding the polypeptide to the mammal.

19. (Withdrawn) The method of claim 16, comprising:

(a) providing a recombinant cell which is the progeny of a cell obtained from the mammal and has been transfected or transformed *ex vivo* with a nucleic acid encoding the polypeptide so that the cell expresses the polypeptide; and

(b) administering the cell to the mammal.

20. (Withdrawn) The method of claim 19, wherein the cell is an antigen presenting cell (APC) and the cell expresses the polypeptide on its surface.

21. (Withdrawn) The method of claim 20, wherein, prior to the administering, the APC is pulsed with an antigen or an antigenic peptide.

22. (Withdrawn) The method of claim 16, wherein the mammal is suspected of having an immunodeficiency disease.

23. (Withdrawn) The method of claim 16, wherein the mammal is suspected of having an inflammatory condition.

24. (Withdrawn) The method of claim 16, wherein the mammal is suspected of having an autoimmune disease.

25. (Withdrawn) A method of identifying a compound that inhibits an immune response, the method comprising:

(a) providing a test compound;

(b) culturing, together, the compound, the polypeptide of claim 6, a T cell, and a T cell activating stimulus; and

(c) determining whether the test compound inhibits the response of the T cell to the stimulus, as an indication that the test compound inhibits an immune response.

26. (Withdrawn) The method of claim 25, wherein the stimulus is an antibody that binds to a T cell receptor or a CD3 polypeptide.

27. (Withdrawn) The method of claim 25, wherein the stimulus is an alloantigen or an antigenic peptide bound to a major histocompatibility complex (MHC) molecule on the surface of an antigen presenting cell (APC).

28. (Withdrawn) The method of claim 27, wherein the APC is transfected or transformed with a nucleic acid encoding the polypeptide and the polypeptide is expressed on the surface of the APC.

29. (Withdrawn) A method of identifying a compound that enhances an immune response, the method comprising:

(a) providing a test compound;

(b) culturing, together, the compound, the polypeptide of claim 6, a T cell, and a T cell activating stimulus; and

(c) determining whether the test compound enhances the response of the T cell to the antigen, as an indication that the test compound enhances an immune response.

30. (Withdrawn) The method of claim 29, wherein the stimulus is an antibody that binds to a T cell receptor or a CD3 polypeptide.

31. (Withdrawn) The method of claim 29, wherein the stimulus is an alloantigen or an antigenic peptide bound to a MHC molecule on the surface of an APC.

32. (Withdrawn) The method of claim 31, wherein the APC is transfected or transformed with a nucleic acid encoding the polypeptide and the polypeptide is expressed on the surface of the APC.

33. (Withdrawn) An antibody that binds specifically to the polypeptide of claim 6.

34. (Withdrawn) The antibody of claim 33, wherein the antibody is a monoclonal antibody.

35. (Withdrawn) The antibody of claim 33, wherein the antibody binds to the polypeptide with SEQ ID NO:1.

Claims 36 and 37 (Canceled)

38. (Withdrawn) A fusion protein comprising a first domain joined to at least one additional domain, wherein the first domain comprises a polypeptide of claim 6.

39. (Withdrawn) The fusion protein of claim 38, wherein the at least one additional domain comprises the constant region of an immunoglobulin heavy chain or a fragment thereof.

40. (Withdrawn) A nucleic acid molecule encoding the fusion protein of claim 39.

41. (Withdrawn) A vector comprising the nucleic acid molecule of claim 40.

42. (Withdrawn) The vector of claim 41, wherein the nucleic acid molecule is operably linked to a regulatory element which allows expression of the nucleic acid molecule in a cell.

Claims 43 and 44 (Canceled)

45. (Withdrawn) The method of claim 14, wherein, the T cell is a helper T cell.

46. (Withdrawn) The method of claim 45, wherein the helper T cell is a helper T cell that provides helper activity for a B cell antibody-producing response.

47. (Withdrawn) The method of claim 45, wherein the B cell antibody response is an IgG2a antibody response.

48. (Withdrawn) The method of claim 14, wherein the co-stimulation causes an increase in the level of CD40 ligand on the T cell surface.

49. (Previously presented) The isolated polypeptide of claim 6, wherein the polypeptide comprises the amino acid sequence set forth in SEQ ID NO: 10, or the amino acid sequence set forth in SEQ ID NO:10 but differing solely by 1-10 conservative substitutions.

50. (Previously presented) The isolated polypeptide of claim 49, wherein the polypeptide comprises amino acid residue 23 to amino acid residue 290 of the amino acid sequence set forth in SEQ ID NO:1, or amino acid residue 23 to amino acid residue 290 of the amino acid sequence set forth in SEQ ID NO:1 but differing solely by 1-10 conservative substitutions.

51. (Previously presented) The isolated polypeptide of claim 6, wherein the wash is at 65°C.

52. (New) An isolated polypeptide comprising the amino acid sequence of SEQ ID NO: 1.

53. (New) The polypeptide of claim 52 further comprising heterologous amino acid sequences.

54. (New) The polypeptide of claim 53 wherein the heterologous amino acid sequences are from an immunoglobulin constant region.

55. (New) An isolated polypeptide comprising from about amino acid residue 23 to about

amino acid residue 239 of SEQ ID NO: 1.

56. (New) An isolated polypeptide encoded by a DNA comprising a nucleic acid sequence that encodes a polypeptide with the ability to co-stimulate a T cell, wherein the nucleic acid sequence hybridizes over its full length, after a wash at 50°C to 65°C in a buffer containing 0.2 x SSC and 0.1% SDS, to the complement of a sequence that encodes a polypeptide with the amino acid sequence set forth in SEQ ID NO:1.

57. (New) The polypeptide of claim 56 further comprising heterologous amino acid sequences.

58. (New) The polypeptide of claim 57 wherein the heterologous amino acid sequences are from an immunoglobulin constant region.

59. (New) An isolated polypeptide encoded by a DNA comprising a nucleic acid sequence at least about 95% identical to the sequence of SEQ ID NO: 2.

60. (New) The polypeptide of claim 59 further comprising heterologous amino acid sequences.

61. (New) The polypeptide of claim 60 wherein the heterologous amino acid sequences are from an immunoglobulin constant region.

62. (New) An isolated polypeptide comprising from about amino acid residue 23 to about amino acid residue 234 of SEQ ID NO: 1.